bladder for three weeks after the operation; but on the seventh day the patient passed a small quantity of water of his own accord, and this gradually increased in amount, so that when the washing out of the bladder was stopped he passed all his urine naturally. Coincidentally with this his general condition improved, and the prostate gradually became smaller.

There was a perceptible diminution in the size of the prostate at the end of the first week after operation, but in the third, fourth, and fifth weeks the increasing atrophy appeared to progress more rapidly. In three weeks after operation the patient began to get about, and in five weeks he was discharged. At this time his general condition had much improved; his urine was normal, he sometimes passed half a pint at a time, but he could not hold his water for more than four or five hours in the daytime. There was no "residual urine" in the bladder; the prostate was comparatively soft and about the size of a large horse chestnut. If a catheter was introduced, it passed easily, and urine began to flow along it when a distance of 8 inches from the orifice of the urethra had been reached without any more depression of the handle than is usual.

I saw the patient on December 11th—thirteen weeks after operation—and found that since his discharge he has not once had to use a catheter or to get up at night to pass water, and is now free from any difficulty in emptying his bladder, and the urine is normal in appearance and has no bad odour. On rectal examination, the prostate was felt to be rather smaller and firmer than at the last examination.

I do not propose to discuss the reason why castration is followed by disappearance of the prostate, as this question has been recently brought forward in the current medical literature, but it is well to note that in this case each testicle, with its coverings, when removed, weighed about 9 drachms, and on microscopical examination appeared normal; and that the secretion in the vasa deferentia was full of living spermatozoa. Other observers have not mentioned such facts, but I think they are important, and should be recorded, as we do not yet know whether atrophy of the prostate is caused by the removal of the functionally active testicles only, or not.

The method of operation I adopted was to make a median cut with scissors along the lowest portion of the raphe of the scrotum, when the testicles were easily turned out from either side; and I can strongly recommend this procedure for the rapidity and facility with which it is accomplished, and for the small amount of incision and suture required.

The operation we are considering has been performed nine times in various parts of the world, in addition to the case I have just narrated, and in each instance, so far as I can ascertain, atrophy of the prostate has ensued, and the local and general condition of the patient improved.

In all these cases the shrinkage appears to have taken place to such an extent that it is impossible to ascribe it to the mere relief of local congestion which may occur under certain conditions.

Here, then, we have a series of cases which strongly support the claims of castration for prostatic hypertrophy. It is not enough, however, to show that an operation succeeds, but it must be shown, also, that it compares favourably with other procedures before it can be allowed to supersede them.

It is not proposed that this operation should be done until "catheter life" has become more and more irksome or inefficient, or until the urine shows fermentative changes, and symptoms of cystitis have supervened. In other words, when we ought to think of drainage of the bladder and prostatectomy, then we ought to think of castration as another, and perhaps better, means of relief.

The permanent retention of a cannula or tube over the pubes or in the perineum is, no doubt, sometimes an effective and safe procedure, and would in many cases be preferred to castration; but even here I think the patient should be allowed the choice of the loss of his testicles as against the disagreeableness of a permanent trickling of urine from his bladder. Much the same argument might be urged against perineal prostatotomy which, however, has a mortality of 4.5 per cent.⁴

It is rather with prostatectomy that we should compare it, for this is the chief radical operation which has hitherto been relied upon as curative rather than palliative.

Perineal prostatectomy has a mortality of 14.3 per cent., and suprapubic prostatectomy a mortality of 14.9 per cent.⁵ If we compare these figures with the low death-rate of castration, and bear in mind the greater ease in performing, and

the small amount of shock attending the operation of castration as compared with prostatectomy, it needs little conjecture to say which is the operation of the future, if the present successful results of castration for prostatic hypertrophy continue.

Then, again, we must consider the fact that prostatectomy owes its success very largely to the atrophy of the gland which follows surgical interference, and if this same result can be brought about by the procedure we are now advocating, with less danger and equal certainty, most surgeons and patients would prefer the operation of castration.

Of all methods of prostatectomy, the "combined method" of Dr. Nicoll⁶ is, perhaps, open to the least objection, but in this it is admitted that subsequent atrophy of the testes may ensue in consequence of injury inflicted on the vasa deferentia during operation. Dr. Nicoll does not think this is of much importance to elderly men, nor is it; but if such results follow a somewhat severe surgical procedure, we may ask why it is necessary to perform the major operation if the act of castration alone is capable of bringing about the desired result?—the testes being virtually or really lost in either case.

THE COOL BATH TREATMENT OF ENTERIC FEVER.⁷

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AFTER some preliminary observations, in which he referred to the widespread prejudice on the part of the public against the mode of treatment by cool baths, the author observed that though more generally identified with the name of Brand of Stettin, the bath treatment was undoubtedly English in origin, having been first suggested and practised by Dr. Currie, of Liverpool, in 1787. After his death, however, it soon lapsed into desuetude, and it was not until the year 1861 that it was revived by Brand. Since then it had gradually risen in favour until it had become the established practice of the German school. In England the bath treatment was still regarded as heroic, although many authorities, including Sir William Broadbent, Dr. Frederick Taylor, Dr. Cayley, Dr. Sidney Coupland, and Dr. F. J. Hare, had written strongly in its favour.

As to the indications for the bath, the author held that with a temperature of 102° F., to 104° F., maintained for a few days with marked evening rise, and no local lesion such as pneumonia to account for it, enteric fever might reasonably be suspected, and the patient placed in a bath for ten or fifteen minutes. The temperature should be taken half an hour after the bath, and regularly every three hours; the bath should be repeated at a higher or lower temperature, whenever the temperature in the rectum rose to 102.2° F. In some instances a tepid bath at 87° F., or 90° F., for thirty minutes was better borne; in others again a temperate bath at 78° F., or a cool one at 66° F. for ten or fifteen minutes. The author preferred as a rule the tepid bath at 87° F. After the temperature had ceased to rise to 102.2° F. but still remained above normal, a warm or tepid bath for fifteen, twenty, or thirty minutes night and morning, was beneficial and grateful to the patient. The author related four cases in the management of which he had rigidly adhered to the following code of rules compiled from various sources:—

1. A temperature of 102.2° in the rectum calls for a bath, and it must not, as a rule, be permitted to rise higher without giving the bath unless the patient is in a sound sleep.
2. The bath, long enough for the patient to be at full length in, is brought close to the bedside, and the patient carefully lifted in and out in the horizontal posture.
3. Half an ounce or 1 ounce of old pale brandy in 2 or 3 ounces of soda or aerated lime water to be given first (in case of adult).
4. The patient always must pass water before being put in the bath.
5. The patient to be immersed up to the neck; the head to be constantly sponged; and the chest and extremities, not abdomen, to be gently rubbed by an attendant.
6. The first bath to be given at 90° F. or 85°, and cooled down by adding cold water to 75° or 70°. If the patient bears it well subsequent baths may be given at 80° and cooled down to 70°. The cold water is poured over the patient's head and chest.

⁶ *Lancet*, April 14th, 1894.

⁷ An Abstract of a paper communicated to the Section of Medicine at the Annual Meeting of the British Medical Association, 1893.

⁴ Moullin, *BRITISH MEDICAL JOURNAL*, 1892, vol. i, p. 1250; and White, *Annals of Surg.*, 1893, vol. 17, p. 72.

⁵ Moullin, *BRITISH MEDICAL JOURNAL*, 1892, vol. i, p. 1294. See also statistics quoted by the author in the *Bristol Med.-Chirurg. Journ.*, 1892, vol. x, p. 237.

7. Average duration of bath, ten minutes; some say until patient begins to shiver; but if he begins to feel cold or gets uneasy the bath must be cut short. Where a patient is nervous or bears the cool baths badly he may be kept in tepid ones at 87° for fifteen, twenty, or thirty minutes, the more prolonged immersion producing the desired effect.

8. Lift the patient carefully on to a couple of large soft bath towels laid over a mackintosh sheet, and rub him dry briskly, except the abdomen, which dry gently, envelop him in a warm blanket and put him in bed, covering lightly, and give him a cup of warm coffee and milk or peptonised cocoa and milk.

9. Half an hour after take the temperature, in the rectum preferably, when it should be 2° or 3° lower.

10. Take the temperature every three hours, and as soon as it again rises to 102.2° F. repeat the bath, unless he is sleeping, when as a rule he must not be disturbed, even if the temperature rise to 104°, but the bath deferred till he awakes.

11. Usually a bath is indicated every six hours. Sometimes, however, during the fastigium the pyrexia is so obstinate and uncontrollable as to call for a bath every three or two hours.

12. During the night baths are seldom called for except by an extremely high temperature.

13. In case the bath lowers the temperature only 1° or less, or only for a very short interval, it becomes necessary to lower its temperature to 66° (cool bath) or even 45° (cold), and lumps of ice may be put in the bath to cool it down with perfect safety, as was done in one of my cases. In Strümpell's experience, baths below 73° F. are seldom needed. He regards 80° to 85° F. as the average.

14. If intestinal hæmorrhage occur, baths must be discontinued.

The advantages of the bath treatment were stated to be: (1) diminution of fever and calming of the nervous system, the patient as a rule sleeping between the baths; (2) disappearance of headache, stupor, and delirium; (3) modification of the irritable condition of the gastro-intestinal mucous membrane, with diminution of thirst, of vomiting, and of diarrhoea; (4) improved tone and diminished frequency of pulse, with deeper inspirations promoting expectoration and diminishing, therefore, the risk of pulmonary complication; (5) diminished dehydration of tissue and less liability to bed-sore; (6) diuretic action on the kidneys; (7) the reduction of mortality by 50 per cent. The objections to the treatment were: the labour and expense entailed; the public prejudice against it; the nervous dread which some patients exhibited; and the increased frequency of relapse.

The only absolute contra-indications were peritonitis, perforation, hæmorrhage, and the advanced cardiac weakness sometimes observed in the later stages of the disease. Broad-bent considered that neither albuminuria nor pulmonary complications were prohibitive, and stated that he had seen albumen disappear from the urine and pulmonary complications cease after a single bath.

The author referred to the system of continuous baths planned by Dr. James Barr, of Liverpool, which appeared to possess all the advantages of the intermittent bath with fewer objections. In conclusion, he expressed the opinion that the case for the bath treatment was unanswerable.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

THE USE OF COCAINE TO PREVENT RESPIRATORY DISTURBANCES DURING CHLOROFORMISATION.

It is quite possible that others have been struck by the ease with which a patient whose tonsils and post-nasum have been pencilled with a solution of cocaine previous to the use of chloroform takes the anæsthetic. For some time I have practised this use of cocaine in tonsillotomy and removal of adenoids after having noticed the comparative freedom from hæmorrhage in a case where I attempted, but without success, to operate under cocaine alone, and had to give a general anæsthetic. In this case the tonsils were removed with very little hæmorrhage indeed, and I was able at once to remove the adenoids unhampered by hæmorrhage from the tonsillar stumps. Apart altogether from the fact that cocaine thus used eases the subsequent use of chloroform (or ether), this circumstance of the freedom from hæmorrhage in an operation (tonsillotomy), where such is always dreaded, ought to be freely observed. Before the action of the cocaine is over the patient is already conscious, and ice can be employed to prolong its effect. I should say that the cocaine, which need only be applied in weak solutions (2 per cent.), reduces the

loss of blood in the double operation of removal of tonsils and adenoids by over 50 per cent.

Rosenberg,¹ of Berlin, has recently drawn attention to the fact that if the mucous membranes of the upper air passages are anæsthetised by cocaine before the administration of chloroform, the disturbances consequent upon their irritation are obviated. This author has found by experiments that at the beginning of anæsthesia, if the blood pressure be considered as equal to 100, the systole is represented by 210, and the diastole by 40. Under normal conditions, on the contrary, the blood pressure being the same, the systole is represented by 110, and the diastole by 90. These modifications are due to respiratory disturbances consequent upon irritation by the chloroform of the mucous membranes of the upper air passages. In two or three cases of my own where this combination of general and local anæsthesia has been employed, less chloroform has apparently been used, and the patient went under with less struggling and fright, and more quickly. In strabismus operations cocaine furnishes a field free from hæmorrhage, but as it abolishes sensation in the conjunctiva, it might prove embarrassing to the chloroformist.

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QUININE AS AN ECBOLIC.

THE following case recently came under my observation. The patient did not send for me until after she had aborted, neither did she give me the facts of the case until she was about again. Doubting her accuracy as to the quantity she took, at my wish she bought for me the same quantity from a drug store, which I found to be exactly 120 grains of pure quinine.

Mrs. C., aged 31, 7-para, whose last child was 6 years old, had recently married her second husband. She had menstruated last on September 14th. On December 3rd, about 10.30 P.M., she took 2 drachms of quinine suspended in a wineglass of water. Within ten minutes she felt sick. This was followed by severe retching, and she brought up a little food. The retching passed off in ten or fifteen minutes. About 11 P.M. she was freely purged, once only. Following this quickly came a bursting sensation in the head. She could hear but could not "catch" what was said to her; she felt hysterical and screamed a few times, but was in no pain. She thinks she was unconscious. About 12.30 A.M., after having taken threepenny-worth of brandy, she felt much better, except for a headache. About 1 A.M. she had a "slight show." This was followed by forcing down pains, which passed off about 7 A.M. She got up at 5 P.M. on the same day, and about 7.30 felt the "water break," and found a fœtus on the floor. Next morning I was sent for, and found the patient in bed. The pulse and temperature were normal. She made a good recovery, and got up five days afterwards, refusing to stay in bed longer. I may add that Mrs. C. is a woman of fine physique and always strong and healthy.

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THE THERAPEUTIC VALUE OF SALICYLATE OF STRONTIUM.²

I SHOULD like to say a word in regard to a drug which probably will prove a valuable addition to every-day therapeutics. After using the lactate, iodide, and bromide of strontium very freely, I came to the conclusion that the strontium element materially modifies the action of haloid bodies on the alimentary canal. This suggested the possibility that strontium might modify the action of salicylic acid, and I got Rosengarten and Sons, chemists, to make a strontium salicylate, and experimented with it upon dogs, determining that in therapeutic doses it elevates the arterial pressure, and that to depress the blood pressure and circulation larger amounts of it per kilo. are required than of the sodium or even of the ammonium salicylate. Subsequently to this study upon animals I have employed it largely in practice. I found, somewhat to my surprise, that in doses of 5 grains it is one of the best of intestinal antiseptics, yielding better results than salol, naphthalin, and similar agents.

¹ The Medical Week, November 23rd, 1894.

² Remarks made at the December meeting of the College of Physicians of Philadelphia, U.S.A.